Immigrants or Jobs: Which comes First to a Metro?

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Abstract

Does immigration leads to more job creation in an MSA, or do employment opportunities entice immigrant inflows to an MSA? Is immigration responsible for higher unemployment in a metro, or does immigration increase self-employment rates that lead to improvement in labor market conditions? The causal relationship between immigrants, job growth and unemployment is a politically and economically salient subject, but has been statistically untested in the economic literature. Using annual data of 500 MSAs, panel Granger causality tests show that immigration causes job creation and lower unemployment in a MSA. Causality tests further reveal that foreign-born inflows lead to higher self-employment rates, which in turn generate additional jobs. Results reject the booming city hypothesis that immigration and labor market outcomes are spuriously correlated due to improving labor markets attracting immigrants to an MSA.
1. Introduction

The relationship between immigration and the labor market remains an open question. This study is the first to examine the causal relationship between immigration and jobs, measured by employment growth, change in employment share, unemployment rate and self-employment rate in an MSA (metropolitan statistical area).\footnote{The complete report with comprehensive equations, tables and further explanations can be found \url{http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2339192}.} We address a major difficulty endemic in the immigration literature, causality: cities that are experiencing an economic boom may simultaneously attract immigrants. Borjas (2003), for instance, writes, “If immigrants endogenously cluster in cities with thriving economies, there would be a spurious positive correlation between immigration and wages. Second, natives may respond to the wage impact of immigration on a local labor market by moving their labor or capital to other cities.” To evaluate these concerns, we use causality tests to evaluate several salient questions in the immigration literature: Which comes first to a metro: job growth or immigrants? Why? Does immigration depress wages and generate unemployment, or does immigration generate self-employment that spurs job creation?

Critics of immigration such as Borjas maintain that the positive relationship between immigration and jobs in an MSA is not causal, but spurious, due to immigrants moving to a city that is already booming. Both foreign-born inflows and wages (or in our case job creation) are simply responding to a common positive macroeconomic shock or event in an MSA, and jobs are attracting inflows, not vice-versa. To test ‘the booming city’ hypothesis, we use Granger causality tests, since this statistical procedure was specifically designed by Nobel Prize winning economist, Clive Granger, to determine temporal ordering (lead or come first). Borjas, Freeman and Katz (1997) and Borjas (2003) argue further that it is critical to control for the “strong currents that tend to equalize economic conditions across cities and regions.” For this reason, our Granger Causality tests control for native-born migration flows across states and we use these tests further to evaluate the booming city hypothesis.

Our work differs considerably from prior academic work in immigration that typically focuses on wage growth and uses decennial Census data with only a limited number of MSAs (the definitions of MSA boundaries and their number have more than tripled since 1990) and time series observations (as most works typically use data from 1970 to 2000). Moreover, decennial data is unsuitable for evaluating job growth, which is studied using quarterly or annual observations as well as likely dated as the composition of immigrants has evolved; e.g., in recent years, the Census reports a rising proportion of immigrants arriving from Asia. Wadhwa, Freemand and Rissing (2008) find Asian immigrants tend to be more educated, technology-focused, and entrepreneurial than immigrants arriving a decade or two ago from Latin America. Rampell (2013) reports that over the past decade, immigrants have become more entrepreneurial, and
Hall et al. document that the percentage of high-skilled immigrants has increased from 24% in 1990 to 30% in 2010.

Our study reflects this new immigration composition, their increased skill sets and entrepreneurship, and then highlights the implications of their higher self-employment rates using a new annual Census data beginning in 2005 of more than 500 MSAs. Further, we focus on jobs, unemployment and immigration and focus our results on the yearly results as these issues are more policy relevant; e.g., the popular press and policy makers emphasize annual job creation and losses, not wage growth over the past decade, when comparing economic activity across metros. Discussion of the negative effects of immigration largely stem from their possible effects on replacing native-born jobs, thereby contributing to unemployment in a city. Hence, this paper address a relevant policy concern: Has immigration lead to job growth or are immigrants merely stealing/replacing native-born worker jobs?

Before we present the statistical results, we present graphical evidence across 500 MSAs. Figure 1 presents a scatterplot of average immigration and job growth from 2005-2011, and clearly displays the a positive and very significant correlation of 27% that is significant at the 99.9% confidence level. There are two explanations: (1) Immigration is responsible for the job creation; (2) Booming cities attract immigration inflows in an MSA, and thus generate a spurious relationship between jobs and immigration. If the booming city hypothesis is true, then we expect a strong relationship between job creation and migration (workers moving from other states) as well as a significant relationship between native and foreign-born workers as both are competing for similar jobs. These patterns should occur because native-born and foreign-born workers are subject to similar economic incentives, and substitutes (immigrants then take native-born jobs). If immigrants are responsible for job creation, we would expect: immigration to lead job creation in a metro, job creation not to precede immigration, and this pattern not to occur for native-born workers.

Figure 2 illustrates no significant relationship between native-born migration and job growth; e.g., the correlation (probability) is -0.02 [.67]. Figure 3 shows no correlation between native-born workers and foreign-born workers; again, the correlation is zero. Again, the correlation is approximately zero in Figure 3. The lack of common movement cast further doubt that a common macro-shock (leading to a spurious correlation) is behind the immigration-job creation relationship in Figure 1. Instead, Figure 4 shows a positive regression slope with a correlation (t statistic) .12 (2.5). In contrast, Figure 5 shows the reverse relationship does not hold; that

\footnote{One can reasonably assume that native-born Americans should be more responsive to job opportunities since they do not have Visa restrictions (are not sponsored by a employer and thus have to remain at the job), and have better information due to language and culture; further, foreign-born workers are attracted to immigrant enclaves.}
is, no significant relationship between job growth in 2005-2008 and immigration growth 2009-2011. Additionally, Figures 6-7 illustrate no relationship between native-born migration to a city from 2005-2008 and job growth 2008-2011, and vice-versa, and provides more evidence against the booming city hypothesis. Lastly, Borjas and Borjas, Freeman and Katz claim that immigration lowers wages, and causes native-born flight from an MSA. Figure 8 shows that immigration does not lead to native-born flight. Overall, the evidence illustrates several important premises. First, a strong relationship exists between immigration and job growth, and this same relationship does not occur between native-born migration and job growth. Second, this relationship appears to be causal not spurious since immigration leads job growth and job growth does not lead immigration; again, domestic migration does not lead job growth. Lastly, there appears little relationship between domestic and foreign-born migration; hence, it is unlikely that immigration is merely responding to an already booming city (and a common macro shock) as native-born workers should also migrate to booming cities if they are substitutes with foreign-born workers.

What do more advanced statistical tests tell us? Granger Causality tests are a statistical test that can determine which comes first, job creation or immigration to a metro. The exact regression specifications are given in longer, more technical paper, but are summarized as follows: If immigrants move to an MSA a year or two before job growth, and job growth does not occur before immigration, then immigration Granger Causes (leads to) job growth. This means there is one-way causality from immigration into a city to subsequent job growth.

Results demonstrate that increases in a MSA’s immigrant share (foreign-born/population) cause significantly higher employment growth the following year, and the immigration estimates are significant at 99.9%. At the same time, increases in job growth in an MSA do not lead to a rise in foreign-born inflows the following year or two. This implies immigration Granger Causes job growth. Additional regression specifications reveal that immigration leads to significantly higher employment rates (employment/population) and significantly lower unemployment rates. In contrast, higher employment rates and lower unemployment do not lead to increased immigration into an MSA. Thus, immigration also Granger Causes job creation and lower unemployment. The same very significant relationship (at 99.9%) also occurs between increased in immigration growth and rise in job growth, increase in employment rates and a decline in unemployment in a metro a year or two later. The Granger Causality results are robust for controlling for lagged changes in domestic migration share and education; further, the domestic migration estimates are significantly smaller than foreign-born estimates and introducing them has no effect on the immigration estimates. As a result, we also significantly reject the booming city hypothesis as an explanation of an MSA’s job creation.

What explains these results? We evaluate two possible paths that immigration may im-
prove job creation - increases in self-employment or lower wages (proxied by income). Granger causality tests indicate that rises in immigration cause significant increases in incorporated self-employment rates in an MSA the following year, which then generate further job growth. At the same time, rises in incorporated self-employment rates do no lead to rises in immigration in an MSA. Hence, there is one-way causation from increases in immigration to more self-employment, which then leads to more job growth. Moreover, immigration Granger Causes higher (not lower) income growth, and immigration leads to native-born individuals moving to a metro. Hence, we identify self-employment as the mechanism through which immigration positively impacts job opportunities in a metro. These results supports a recent report by the Partnership for a New American Economy (2013 that finds immigrants are “creating American jobs through self-employment. The rate of immigrant self-employment is roughly three times the rate among the U.S.-born population. By helping businesses grow (through demand of local services) and starting their own firms, immigrants create the very opportunities that make communities attractive to others.”

The immigration link to self-employment supports Fairlie (2011, 2012) who finds business formation rates for immigrants are more than twice native-born workers, and immigrants are more likely to higher employees (so self-employment generates further employment growth) - an average of 8 employees. As a result, immigrants do not steal jobs, but help create them as increases in self-employment lead to more jobs and lower unemployment. Moreover, he reports that recent Asian immigrants possess nearly double the sales ($460,000) of Hispanic owned businesses ($257,000). The additional payroll generates further demand for local goods and services, along with additional jobs in the region. The impact of Asian immigrants are likely important in differentiating this paper from prior immigration work based on past decennial data. The Pew Research Center (2012) reports that Hispanic immigrants were 60% of new immigrants in 2000 and Asians less than 20%, however, by the end of the decade, Asian immigrants were nearly 40%, and Hispanics less than 33%. The doubling of Asian immigrants and their propensity to start small businesses that then generate substantial payrolls is likely responsible for generating job growth, while previous immigration studies based on earlier data missed this pattern.

A second reason that immigration may lead to job creation is that business location theory posits that a critical factor in affecting a firm’s choice of a particular metro is the availability of skilled labor (Berger and Fisher, 2013). Hunt and Gauthier-Loiselle (2010) reveal that Rambell also posits that “immigrants are also more likely to start a business in any given month. In 2010, the business formation rate per month among immigrants was 0.62%, meaning that of every 100,000 non-business-owning immigrants, 620 started a business each month. The comparable rate for nonimmigrants was 0.28%. As for job creation, companies owned by immigrants are slightly more likely to hire employees than are non-immigrant-owned companies.”
immigrants have abundant human capital and ideas, and patent at double the native rate, due to their disproportionately high share of science and engineering degrees. A series of six reports by Brookings Institution (2012, 2013) demonstrate that immigrants are improving the economic climate of a region (which then creates jobs for all workers) through a number of factors: patents by immigrants are reinventing the American economy, the importance of their propensity for small business creation, their critical role in STEM, their contribution to stabilizing housing prices and less desirable communities, and their ability to create and preserve manufacturing jobs. These skills sets and actions attract companies and help create jobs for all Americans.

In conclusion, the causal short-run causal relationships between immigration, employment growth and small business creation. This issue has considerable public policy implications as many cities are currently promoting more immigration to improve their economy. Hence, it is critical to analyze the effects of immigration on job growth and unemployment and validate their initiatives. Our results show that the positive relationship between immigration and labor market conditions in a metro is not spurious. Increased immigration in a metro Granger Causes higher employment growth, a rising employment share and declining unemployment.
References


